

Amendments to the Claims

1. (CURRENTLY AMENDED) A voltage converter for generating an output voltage at an output terminal from an input voltage ~~VDD~~ taken from ground ~~GND~~, said voltage converter comprising:

- a capacitance ~~Cp~~ having a first terminal ~~N1~~ and a second terminal ~~N2~~,
 - four transistors ~~T1-T2-T3-T4~~ of the MOS-type functioning as switches, each transistor being controlled by a control signal having a level varying in the rhythm of a clock signal, each transistor comprising a source, a gate, a drain, and such that the first transistor ~~T1~~ is connected between the input voltage ~~VDD~~ and the first terminal ~~N1~~, the second transistor ~~T2~~ is connected between the first terminal ~~N1~~ and ground ~~GND~~, the third transistor ~~T3~~ is connected between the input voltage ~~VDD~~ and the second terminal ~~N2~~, and the fourth transistor ~~T4~~ is connected between the second terminal ~~N2~~ and the output terminal,
- characterized in that it comprises at least a control circuit for supplying said control signal applied between the gate and the source of one of the transistors ~~T1-T2-T3~~ functioning as a switch, said control circuit having the particular function of generating a control signal having an amplitude which is inversely proportional to the input voltage ~~VDD~~ when the transistor which it controls is equivalent to a closed switch.

2. (CURRENTLY AMENDED) A voltage converter as claimed in claim 1, characterized in that said control circuit comprises, when it controls a transistor of the P-MOS type:

- an additional transistor ~~M1~~ of the P-MOS type functioning as a closed switch,
- a current source ~~IREF_1~~ arranged in series with the drain-source junction of said additional transistor ~~M1~~,
- a switch ~~COM1~~ having two inputs, the first input ~~E1~~ of which is connected to the central tap ~~P~~ of the additional transistor ~~M1~~ and the current source ~~IREF_1~~, and the second input ~~E2~~ is connected to the input voltage ~~VDD~~, said switch being controlled via said clock signal.

3. (CURRENTLY AMENDED) A voltage converter as claimed in claim 1, characterized in that said control circuit comprises, when it controls a transistor of the N-MOS type:

- an additional transistor ~~M2~~ of the N-MOS type functioning as a closed switch,
- a current source ~~I_{REF_2}~~ arranged in series with the drain-source junction of said additional transistor ~~M2~~,
- a switch ~~COM2~~ having two inputs, the first input ~~E1~~ of which is connected to the central tap ~~P~~ of the additional transistor ~~M2~~ and the current source ~~I_{REF_2}~~, and the second input ~~E2~~ is connected to ground ~~GND~~, said switch being controlled via said clock signal.

4. (CURRENTLY AMENDED) An integrated circuit comprising a voltage converter for generating an output voltage at an output terminal from an input voltage ~~VDD~~ taken from ground ~~GND~~, said voltage converter comprising:

- a capacitance ~~C_p~~ having a first terminal ~~N1~~ and a second terminal ~~N2~~,
- four transistors ~~T1-T2-T3-T4~~ of the MOS type functioning as switches, each transistor being controlled by a control signal having a level varying in the rhythm of a clock signal, each transistor comprising a source, a gate, a drain, and such that the first transistor ~~T1~~ is connected between the input voltage ~~VDD~~ and the first terminal ~~N1~~, the second transistor ~~T2~~ is connected between the first terminal ~~N1~~ and ground ~~GND~~, the third transistor ~~T3~~ is connected between the input voltage ~~VDD~~ and the second terminal ~~N2~~, and the fourth transistor ~~T4~~ is connected between the second terminal ~~N2~~ and the output terminal,

characterized in that the voltage converter comprises at least a control circuit for supplying said control signal applied between the gate and the source of one of the transistors ~~T1-T2-T3~~ functioning as a switch, said control signal having the particular function of generating a control signal having an amplitude which is inversely proportional to the input voltage ~~VDD~~ when the transistor which it controls is equivalent to a closed switch.

5. (CURRENTLY AMENDED) A device for reading smart cards, comprising a voltage converter for generating an output voltage at an output terminal from an input voltage ~~VDD~~ taken from ground ~~GND~~, said voltage converter comprising:

- a capacitance ~~C_p~~ having a first terminal ~~N1~~ and a second terminal ~~N2~~,
- four transistors ~~T1 T2 T3 T4~~ of the MOS type functioning as switches, each transistor being controlled by a control signal having a level varying in the rhythm of a clock signal, each transistor comprising a source, a gate, a drain, and such that the first transistor ~~T1~~ is connected between the input voltage ~~VDD~~ and the first terminal ~~N1~~, the second transistor ~~T2~~ is connected between the first terminal ~~N1~~ and ground ~~GND~~, the third transistor ~~T3~~ is connected between the input voltage ~~VDD~~ and the second terminal ~~N2~~, and the fourth transistor ~~T4~~ is connected between the second terminal ~~N2~~ and the output terminal,

characterized in that the voltage converter comprises at least a control circuit for supplying said control signal applied between the gate and the source of one of the transistors ~~T1 T2 T3~~ functioning as a switch, said control signal having the particular function of generating a control signal with an amplitude which is inversely proportional to the input voltage ~~VDD~~ when the transistor which it controls is equivalent to a closed switch.